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(54) Title: ASSOCIATION OF THE H2 HAPLOTYPE OF THE P2Y12 RECEPTOR WITH AN INCREASED RISK FOR THROMBOSIS AND PERIPHERAL ARTERIAL DISEASE

(57) Abstract: The invention relates to an in vitro method for determining the risk of developing thrombosis in a subject, and to an in vitro method for determining sensitivity of a subject toward a thienopyridine therapy. Both methods involve identifying a particular haplotype of the P2Y12 receptor gene.

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# INTERNATIONAL SEARCH REPORT

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## A. CLASSIFICATION OF SUBJECT MATTER

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Minimum documentation searched (classification system followed by classification symbols)

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## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 02 36631 A (KAMOHARA MASAZUMI ;MATSUMOTO MITSUYUKI (JP); SAITO TETSU (JP); OHI) 10 May 2002 (2002-05-10) example 2	11
X	----- DATABASE EBI 'Online! EMBL; Homo sapiens 3 BAC RP11-25K24, 6 March 2000 (2000-03-06) MUZNY DM ET AL: retrieved from EBI, accession no. EM_HUM:AC024886 Database accession no. AC024886 XP002242768 abstract ----- -/-	10

☒ Further documents are listed in the continuation of box C.

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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X	<p>DATABASE BIOSIS 'Online! BIOSCIENCES INFORMATION SERVICE, PHILADELPHIA, PA, US; 16 November 2001 (2001-11-16) CONLEY PAMELA B ET AL: "Unique mutations in the P2Y12 locus of patients with previously described defects in ADP-dependent aggregation." Database accession no. PREV200200151491 XP002242769 abstract &amp; BLOOD, vol. 98, no. 11 Part 2, 16 November 2001 (2001-11-16), page 43b 43rd Annual Meeting of the American Society of Hematology, Part 2;Orlando, Florida, USA; December 07-11, 2001, November 16, 2001 ISSN: 0006-4971</p>	11
X	<p>DATABASE BIOSIS 'Online! BIOSCIENCES INFORMATION SERVICE, PHILADELPHIA, PA, US; 16 November 2001 (2001-11-16) CATTANEO MARCO ET AL: "Phenotypic and genotypic characterization of a congenital bleeding disorder caused by a dysfunctional P2Y12 ADP receptor." Database accession no. PREV200200209859 XP002242770 abstract &amp; BLOOD, vol. 98, no. 11 Part 1, 16 November 2001 (2001-11-16), page 443a 43rd Annual Meeting of the American Society of Hematology, Part 1;Orlando, Florida, USA; December 07-11, 2001, November 16, 2001 ISSN: 0006-4971</p>	11
X	<p>WO 01 046454 A (COR THERAPEUTICS INC) 28 June 2001 (2001-06-28) claim 1</p>	11

# INTERNATIONAL SEARCH REPORT

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0236631	A	10-05-2002	AU 1098202 A EP 1331228 A1 WO 0236631 A1 US 2003124626 A1	15-05-2002 30-07-2003 10-05-2002 03-07-2003
WO 01046454	A	28-06-2001	AU 2288601 A CA 2395416 A1 EP 1240350 A1 WO 0146454 A1 US 2003170777 A1	03-07-2001 28-06-2001 18-09-2002 28-06-2001 11-09-2003